

The Incredible Edible Landfill

Concept

Most of the materials we throw "away" are solid waste and are placed in landfills. Landfills, a necessary part of our lives, must be carefully constructed to prevent harmful waste from contaminating our groundwater and destroying our environment.

Objectives

- To understand the advantages and disadvantages of using landfills for garbage disposal
- To construct a model based on current requirements

Materials

Per Class (enough to make two landfills)

- 2 prepared graham cracker crust in a pie pan (represents protective liner)
- 2 packages of vanilla pudding (represents waste)
- 2 packages of chocolate pudding (represents dirt)
- 1 1/2 cups crushed cookies (pieces of garbage)
- 1 cup graham cracker crumbs (represents sand and gravel)
- 6 pieces of licorice (tubes to collect leachate/release methane gas)
- 1 cup of coconut (grass planted after landfill is exhausted)
- Green food coloring (tint the coconut to simulate grass)
- Serving plates/ spoons
- 4 cups milk*
- Mixing bowls/spoons*



Note: This activity may be done as a demonstration, with student participating in the measurement, mixing and layering of the ingredients. Continually reinforce what the items represent as the landfill is constructed.

Time Frame: One class period

Procedure:

1. Prepare puddings separately according to the package directions.
2. Fold crushed cookies into the vanilla pudding.
3. Lay the tubes across the prepared crust.
4. Spread a layer of graham crackers on top of the tubes.
5. Spread a thin layer of vanilla chocolate pudding on top of this.
6. Cover with a thin layer of vanilla pudding, ending with a chocolate layer.
7. Repeat layers of chocolate pudding and vanilla pudding, ending with a chocolate layer.
8. Cut a piece of licorice rope in 2" lengths and insert them vertically into the "landfill".
9. Eat and enjoy.

Discussion: What do the food items represent? What are some of the problems with burying solid waste in landfill? How could these problems affect you? Would you want a landfill near your home? Why not? Where is the closest landfill? What else could you do with your garbage?